

Paulo Costa

Computing Engineer

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<https://github.com/paulo-raca>

1 Professional Experience

- **CrowdStrike / Iperlane** - since October/2016

Development of software container for Android, capable of running and monitoring 3rd party apps.

The project was developed mostly in Java, with parts in C++, Kotlin and Python.

I was initially hired by Iperlane, which was acquired by CrowdStrike in October/2017.

- **Geofusion** - April/2015 to October/2016

Development of the Java backend and Web frontend of Onmaps, a tool for analysis and visualization of geospatial data, used mostly as marketing tool (Geomarketing).

The project uses a Java backend, Web frontend, Oracle database and spatial indexes in Solr.

- **Facebook** - October/2012 to September/2014

I've worked on the project responsible for managing all of Facebook's servers and other datacenter devices, and which acts as an intermediary between several automation tools, such as: Provisioning, application deployment, repairs, financial systems, data replication, monitoring, etc.

This project is written in Java and communicates with other applications through Thrift APIs. I also contributed with several client applications, usually written in Python, PHP or C++.

- **Veridis Tecnologia** - September/2009 to October/2012

Veridis develops solutions for biometric access control (Fingerprints in special). I was responsible for developing the library for capture and matching Fingerprints (Based on NBIS) and the firmware for a embedded system that controls biometric doors and turnstiles.

Most Development was done in C++, but all libraries have APIs and samples in Java and C#.

- **Griaule Biometrics** - May/2006 to September/2009

Griaule sells a software library for capture and matching of fingerprints. I was responsible with supporting several fingerprint scanners, Linux support, modularization and other improvements.

Most development was done in C++, but there are bindings and examples for Java, Delphi, C# and VB.

- **CPqD - Research and Development Center in Telecommunications**, Intern - December/2005 to February/2006

As an intern, my job consisted in fixing known bugs, writing JUnit tests and add new features to existing components.

All components are written in Java and typically used Hibernate, EJB e Struts.

2 Education

- **Specialization in Automation and Control of Industrial and Agro-Industrial Processes** - Feagri/Unicamp - desde Março/2019.

- **Specialization in Complex Data Mining** - IC/Unicamp - March/2018 to August/2018.

- **Computer Engineering** - IC/Unicamp - March/2006 to December/2010.

Study Certificates:

- Visual Computing
- Project of Dedicated Hardware Systems
- Software Engineering
- Project of Information Systems

Grade Point Average: 7.7 (0-10)

- **Technician in Eletronics** - Cotuca/Unicamp - February/2007 to December/2010
- **Technician in Informatics** - Cotuca/Unicamp - February/2003 to December/2006
Emphasis in Support Systems

3 Languages

- **English** - Advanced Level.
109/120 points on TOEFL iBT (November/2008).
- **Portuguese** - Native Speaker.

4 A few Projects

- **ADB Proxy** - Uses SSH tunnels to attach the local computer to a remote Android device, suitable for remote control and debugging.
- **Android-Full-Framework** - Gradle plugin for Android projects that expose every method/field from every Android Framework version as 'public' at compile-time and then modifies the bytecode with the necessary boilerplate to access it. Very handy for hacking Android's internals.
- **MongoFS** and **SpotifyFS**- FUSE filesystem to manage documents in Mongo databases as JSON files and play Spotify songs as MP3 files.
- **MongoFS** - FUSE filesystem to manage documents in Mongo databases.
- **Contour Curves for Highcharts** - Plugin to the popular Highcharts library to plot 2-D and 3-D contour curves.
- **Experimental Design** - Web interface to easily plan and analyze experiments using DOE methodologies. Made with Python/webapp2 and javascript.
- **charlcd-gpio e ttyWiegand** - Linux kernel modules for driving HD44780-compatible character LCDs and to receive data from Wiegand deviced through GPIO pins.
- **JIPS** - Java Virtual Machine, able to run any class file. Has partial support for JNI, no Garbage collection. Made with C++/Arch-C.
- **Space Wars** - StarWars-like 3-D space battle game.
Made with Java, OpenGL, OpenAL and JInput.
- **Mini-MIPS** - MIPS-like multi-cycle microprocessador. Implemented from behavioral VHDL to physical layout.
Made with GHDL, Cadence Encounter and Cadence Virtuoso.
- **Rabiscomatic** - Plotter assembled from old printers and a ARM microcontroller.
Firmware and computer software written in C. USB interface.
- **Calculatrix** - Plots math functions in in 2 or 3 dimensions.
Made with Java and OpenGL.
- **3D Wohoo** - Libraries for drawing 2-D and 3-D computer graphics, built from the scratch.
Versions for Turbo Pascal, Delphi and Java.

5 Programming Contests

- **ICPC – International Collegiate Programming Contest - World Finals**
 - 2008 - Honorable mention - Team GAP/Unicamp
- **ICPC – International Collegiate Programming Contest - Brazilian Finals**
 - 2007 (4th position - Team GAP/Unicamp), 2010 (8th position - Team Unicamp Alfa)
- **IOI - International Olympiads in Informatics**
 - 2006 - 122nd position (Bronze)
- **CIIC - Ibero-american Contest in Informatics)**
 - 2004 (Silver), 2006 (Silver)
- **OBI – Brazilian Olympiads in Informatics**
 - 2003 (Silver), 2004 (Golden), 2005 (Bronze), 2006 (Golden)
 - 2010 and 2011 - Worked on the programming courses.
- **Google Code Jam Latin America**
 - 2007 – 80th position

6 Courses Taken

- **OBI's Advanced Programming Course - IC / Unicamp**
 - 2003, 2004 and 2006
- **Summer Programming Challenges - IME / USP**
 - 2010
- **Compiler Transformations and Mapping Techniques for Reconfigurable Architectures - ICMC / USP**
 - 2011